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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,164	01/02/2002	Casey R. Winkel	42390P13383	7816
8791	7590	11/06/2003	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025			SCHEUERMANN, DAVID W	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/038,164	Applicant(s) WINKEL ET AL.	
	Examiner David W. Scheuermann	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-13, 24-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

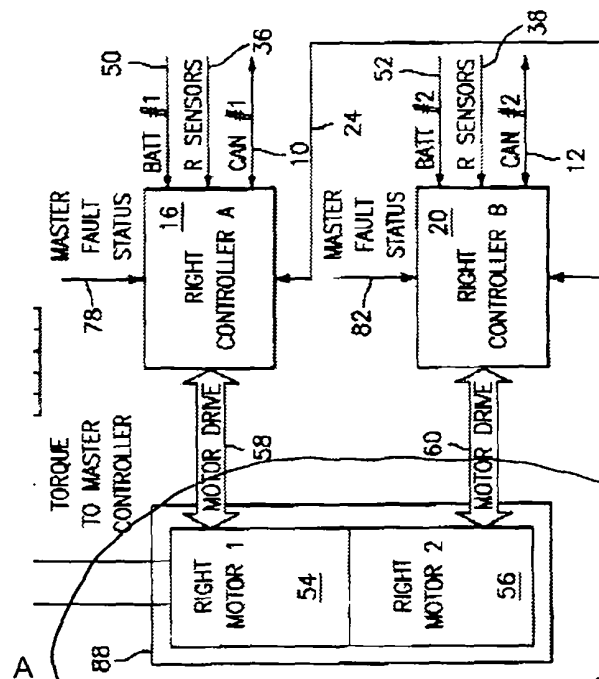
Response to Amendment

Applicant's arguments filed July 28, 2003 have been fully considered but they are not persuasive. The examiner does not agree with applicant's representative that the Ewbank et al. reference fails to disclose that any two motors are coupled to a single motor drive (*i.e.*, a shaft). Below is text from column, 4 lines 47 – 50 of Ewbank et al.

Upon inspection of FIG. 3, it will also be seen that only one motor casing is on the right side of the driving system 92. However, the inner wiring of the right motor assembly 88 can contain two independent sets of stator windings for right motor one 54 and right motor two 56.

As can be seen clearly, from the figures copied from Ewbank et al. on the following page, the right motor assembly houses both motor assemblies 54 and 56. Since there is shown only one portion of the assembly 88 making contact with the steering structure namely the lower right portion it is inherent that that these motor share the same shaft to enable the output of motor 54 to be transmitted past motor 56 onto the steering structure, note the figures on the following page.

Additionally, since both motors inherently drive the same steering structure, including shaft 106, they are both "coupled" to single shaft 106



A Portion of Figure 1

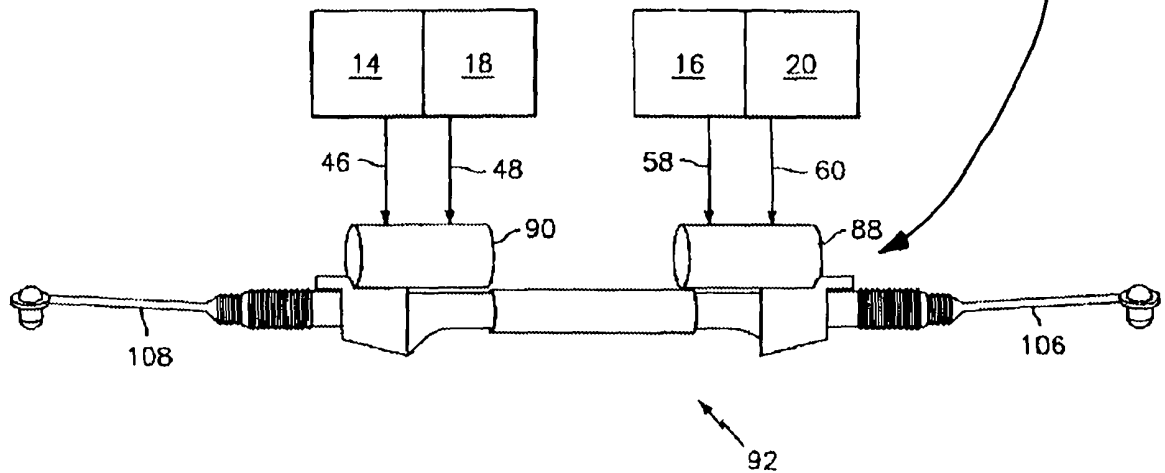
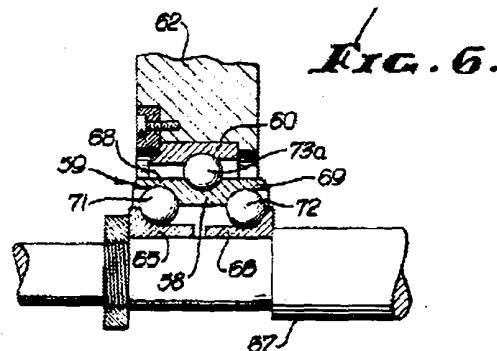


FIG. 3

Response to Amendment (continued)

Applicant's representative also argues that the bearing set of Rosales are not concentric. Since these bearings share the same axis of rotation they are considered concentric. From the axial aspect all the bearing sets of Ewbank et al are concentric. Furthermore, some of the bearing sets of Rosales share a geometric center. Note, for example the bearing, shown in figure 6 of Rosales depict a "plurality of bearing sets." To facilitate, a copy of this bearing is shown below.



Note that the bearing set comprising ball groups 71 and 72 is concentric with bearing set comprising ball group 73a. These bearing sets share common race 58 and not only share the same axis of rotation but the same geometric center. Other bearing sets of Rosales share these concentric features. Any of the bearing sets shown in Rosales would be an obvious enhancement to the device of Ewbank et al.

Since the combination of Ewbank et al. and Rosales show all the features as claimed the earlier rejection is proper.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ewbank et al., US 6548969 in view of Rosales, US 3737202. Ewbank et al. disclose a redundant motor system comprising motor 54 and 56 coupled to a shaft (inherent) and a plurality of motor controllers 16 and 20 coupled to the motors wherein the failure of any motor or controller does not cause the overall apparatus to fail. Ewbank et al. do not expressly disclose redundant bearings. Rosales discloses redundant bearings, for the purpose of preventing catastrophic failure. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use redundant bearing on the motor shafts of Ewbank et al. One of ordinary skill in the art would have been motivated to do this to prevent catastrophic bearing failure.

Re claim 4, is it inherent that both motors rotate in the same direction.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ewbank et al. and Rosales as applied to claim 1 above, and further in view of Richmond, US 5315954. The combination of Ewbank et al. and Rosales as

applied to claim 1 above discloses the invention as claimed except for the bearing failure detector. Richmond discloses a bearing alarm, for the purpose of indicating when the bearing has exceeded a predetermined temperature. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a bearing alarm in the combination of Ewbank et al. and Rosales as applied to claim 1 above. One of ordinary skill in the art would have been motivated to do this to notify the user that the bearing has exceeded a predetermined temperature.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ewbank et al. and Rosales as applied to claim 1 above, and further in view of Grieb, US 3959677. The combination of Ewbank et al. and Rosales as applied to claim 1 above discloses the invention as claimed except for the fan blade, housing and heat sink coupled to the housing. Grieb discloses a fan and cooperating heat sink attached to a housing for the purpose of ensuring adequate cooling at critical areas, note column 1, lines 45-46. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to enclose the motors of the combination of Ewbank et al. and Rosales as applied to claim 1 above in a housing and include a fan and heat sink. One of ordinary skill in the art would have been motivated to do this ensure adequate cooling at critical areas.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ewbank et al. and Rosales as applied to claim 1 above, and further in view of Harmsen et al., US 5267842. The combination of Ewbank et al. and Rosales as applied to claim 1 above discloses the invention as claimed except for the bifilar

windings and parallel connected pads. Harmsen et al. discloses the use of bifilar windings for the purpose of permitting the use of smaller capacitors, note column 4, lines 59-64. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use bifilar windings in the combination of Ewbank et al. and Rosales as applied to claim 1. One of ordinary skill in the art would have been motivated to do this to enable the use of smaller capacitors.

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ewbank et al. and Rosales and Grieb as applied to claim 3. The combination of Ewbank et al. and Rosales and Grieb as applied to claim 3 disclosed the invention as claimed except for the bearing failure alarm. Richmond discloses a bearing alarm, for the purpose of indicating when the bearing has exceeded a predetermined temperature. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a bearing alarm in the combination of Ewbank et al. and Rosales and Grieb as applied to claim 3 above. One of ordinary skill in the art would have been motivated to do this to notify the user that the bearing has exceeded a predetermined temperature.

Re claim 25, is it inherent that both motors rotate in the same direction.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ewbank et al., Rosales, Grieb and Richmond as applied to claim 24 above. The combination of Ewbank et al., Rosales, Grieb and Richmond as applied to claim 24 above, disclose the invention as claimed except for the bifilar winding.

Harmsen et al. discloses the use of bifilar windings for the purpose of permitting the use

of smaller capacitors, note column 4, lines 59-64. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use bifilar windings in the combination of Ewbank et al., Rosales, Grieb and Richmond as applied to claim 24. One of ordinary skill in the art would have been motivated to do this to enable the use of smaller capacitors.

Allowable Subject Matter

Claims 7-10 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to eliminate any 112 rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is (703) 308-9637. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dws
November 3, 2003


BURTON C. COLLINS
PRIMAR MINER